

GAVRILENKO, N.T.

Incidence of skin cancer and its treatment; according to material
from the Gomel Province Oncological Clinic for the period 1953-
1957. Vop.onk. 7 no.2:82-86 '61. (MIRA 14:5)
(GOMEL' PROVINCE--SKIN--CANCER)

GAVRILENKO, N.T., vrach

Lip cancer and its treatment. Zdrav. Bel. 8 no. 11:15-17 N '62.

(MIRA 16:5)

1. Iz rentgenologicheskogo otdeleniya (zav. N.T. Gavrilenko)
Gomel'skogo oblastnogo onkologicheskogo dispansera (glavnyy
vrach - zasluzhennyy vrach BSSR A.F. Krivoshechkiy).
(LIPS—CANCER)

BURKHADETS, D. (Donetsk); GAVRILENKO, P. (Donetsk)

In foreign countries. Radio no.9:59-60 S '65.

(HWA 1965)

GAVRILE KO, P. T.

Gavrilenko, P. T. - "The head-stall of a water receiver with self-cleaning antechamber,"
Sbornik trudov Stroit. in-ta Mosk. soveta, Issue 2, 1948, p. 152-56

SO: U-3500, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

GAVRILENKO, P.V.

SELETSKIY, A.A., gerayy inzhener; SHIGIREV, A.Ye., gerayy inzhener;
GAVRILENKO, P.V., gerayy inzhener.

Using walking excavators in mines of the Tikhvin Alumina Plant.
Ger. zhur. no.10:34-37 0 '55. (MLRA 9:2)
(Tikhvin--Excavating machinery)

RIVKINA, Kh. I., kand. tekhn. nauk; ZININA, N. V.; GAVRILENKO, S. A.

Manufacture of feed yeasts based on peat hydrolyzates. Torf.
prom. 40 no.3:24-26 '63. (MIRA 16:4)

1. Kalininskiy torfyanoy institut.

(Peat industry--By-products) (Feeds)

L 09325-67 EMP(m)/EWT(1) WW
ACC NR: A16030936 (N) SOURCE CODE: UN/0207/66/000/004/0172/0174 37

AUTHOR: Gavrilenko, T. P. (Novosibirsk); Topchilyan, M. Ye. (Novosibirsk)

ORG: Institute of Hydrodynamics, Siberian Department, AN SSSR (Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR)

TITLE: Investigation of the dynamic rupture strength of water

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1966, 172-174

TOPIC TAGS: water, rupture strength, cavitation

ABSTRACT: The authors present the results of experimental investigations of the rupture strength of water under dynamic loading in the absence of a free surface, for which there are practically no published data. The measurement procedure was based on the assumption that the effect of discontinuities on the medium and on objects placed in it, as well as on the profile of the passing wave itself, is manifest primarily in a change in pressure. An important role is played here by the frequency of the pressure pulsations. The occurrence of cavitation was therefore determined by measuring the pressure, which unlike the optical measurement does not involve determination of the critical dimension of the bubbles. In addition, this method makes it possible to measure directly the negative pressure at which cavitation arises, and the time at which it is reached. The apparatus (Fig. 1) is based on first producing a high pressure in the water, and then stretching the water at high speed until the rarefaction wave produces rupture of the water. The instant when this occurs the

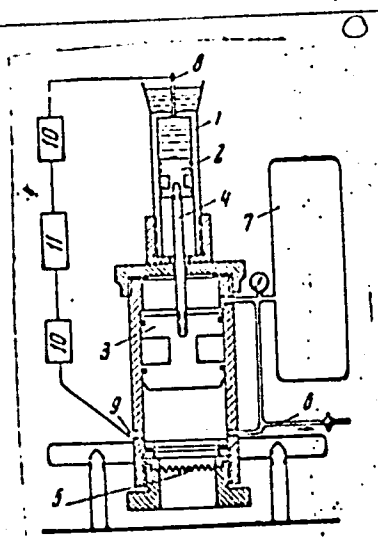
Card 1/2

L 09325-67

ACC NR: AF6030936

Fig. 1. Diagram of test setup. 1 - Upper cylinder, 2,3 - pistons, 4 - rod, 5 - membrane, 6 - pipe; 7 - receiver, 8,9 - pickups, 10,11 - electronic equipment and oscilloscope.

previously decreasing water pressure begins to rise and this is noted on an oscilloscope. The results show that ordinary water, without degassing and distillation, can withstand negative pressure on the order of 2.5 atm for a time on the order of 20 - 30 μ sec. With increasing time of force application, the strength decreases, reaching 0.5 atm at 150 μ sec. The ultimate static limit is reached at times on the order of 300 - 500 μ sec. Orig. art. has: 3 figures and 1 formula.



SUB CODE: 20/ SUBM DATE: 17 Jan 66/ ORIG REF: 001/ OTH REF: 002

Card 2/2

GAVRILENKO, V. (g.Kherson)

A simple method for bending pipes. Radio no. 11:44 N '60.

(MIRA 14:1)

(Television--Antennas)

(Pipe bending)

GAVRILENKO, V.

Testing the new harvesting machines. Pozh.delo 9 no.8:11
Ag '63. (MIRA 16:9)

1. Nachal'nik Rostovskoy pozharno-ispytatel'noy stantsii.
(Harvesting machinery--Testing) (Fire prevention--Research)
-

GAVRILENKO, V.A., aspirant

Effect of the spleen on the erythropoietic function of marrow.
Medych.zhur. 16:278-284 "47. (MIRA 10:12)

1. Z kafedri patologichnoi fiziki (zav.kafedri - chlen-kor. AN URSR
prof. Ye.O.Tatarinov) Kiivs'kogo ordena Trudovogo Chervonogo Prapora
medichnogo institutu im akad. O.O.Bogomol'tsya.
(SPLEEN) (MARROW) (ERYTHROCYTES)

GAVRILENKO, V. [Havrylenko, V.]; SHCHERBININ, I., red.

[Kharkov today] Kharkiv s'ohodni. Kharkiv, Kharkivs'ka
knyzhkove vyd-vo, 1960. 245 p. of illus. ____ [Text in Russian
and English] 10 p. (MIRA 14:4)
(Kharkov--Views)

GAVRILENKO, V.A.

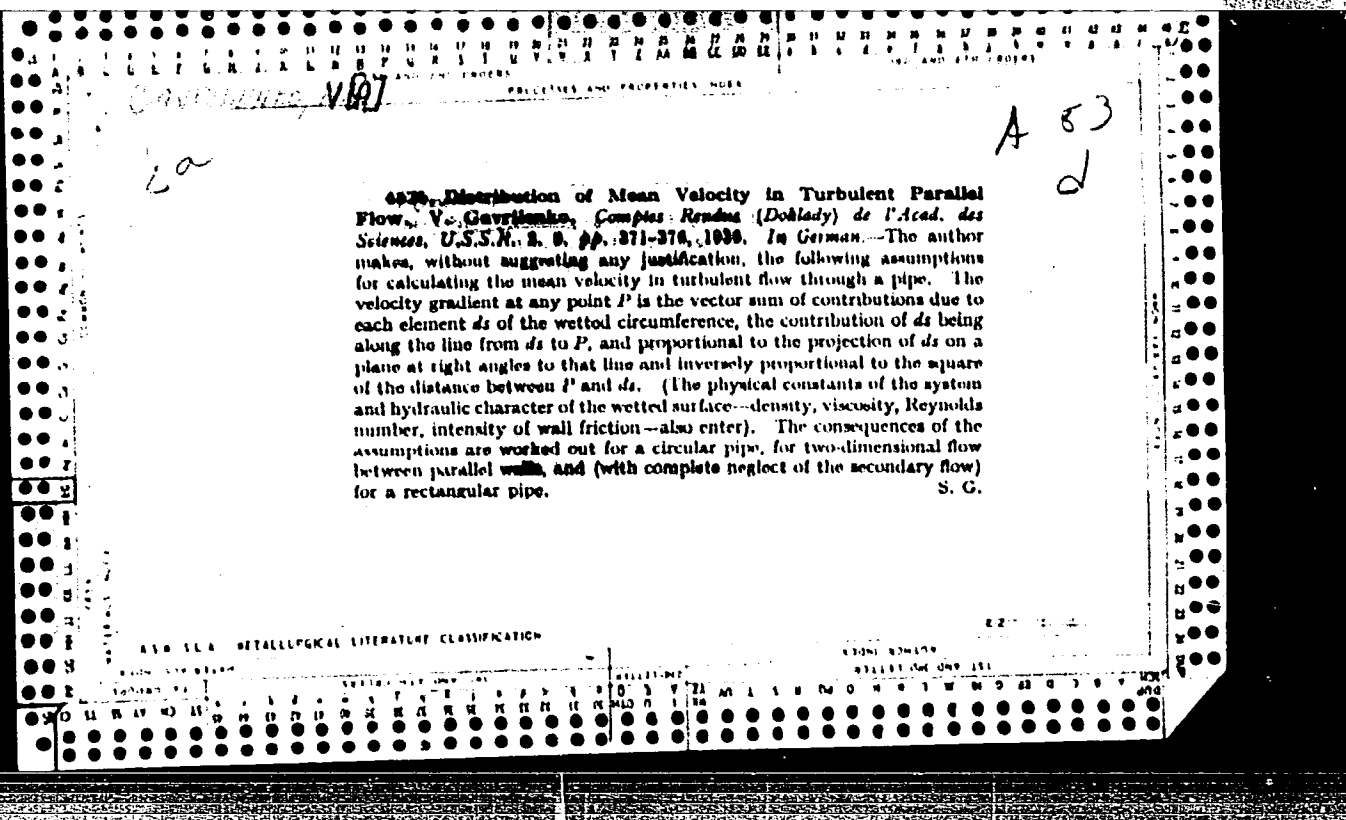
Primary isolated lymphogranulomatosis of the stomach. Vrach.delo
no.5:517-519 My '60. (MIRA 13:11)

1. Kafedra gosptal'noy khirurgii (zav. - Zasluzhennyi deyatel'
nauki, prof. N.Ye.Dudko) Kiyevskogo meditsinskogo instituta i
Vtoroye otdeleniye Kiyevskoy gorodskoy klinicheskoy bol'nitsy imeni
Oktyabr'skoy revoliutsii.
(STOMACH--DISEASES)
(HODGKIN'S DISEASE)

GAVRILENKO, V.A.; BUSHNOV, P.I.

Results of the investigation into the fire hazards of the
new type of agricultural machinery. Sbor. rab. pozh.-ispyt.
sta. no.3:61-64 '63. (MIRA 17:7)

1. Rostovskaya pozharno-ispytatel'naya stantsiya.



ZHUDOV, V., inzh.; SHUMAKOV, V., inzh.; LARIONOV, M., inzh.; GAVRILENKO,
V. [Havrylenko, V.], inzh.

Thermal treatment of large heavy concrete products by heating
without steam. Bud.mat.i konstr. 4 no.4:1-4 J1-Ag '62.
(MIRA 15:8)
(Precast concrete)

GAVRILENKO, V., inzh.

Mechanized method of finishing cellular concrete wall
panels. Zhil. stroi. no.10:3-4 '65. (MIRA 18:11)

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6342. Velocity Distribution in Turbulent Flow in Pipes. V. A. Gavrilenko. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 18. 6. pp. 441-443, 1957. "In English". A comparison of the author's theory [see Abstract 4050 (1956)] with experimental results, due to Nikuradse, in smooth and rough circular pipes and in a rectangular pipe.
S. G.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

18300-119-031100

18300-119-031100

GILLSTONE

18300-119-031100

[illegible]

GAVRILENKO, V. A.

"Distribution of Mean Velocities in Turbulent Uniform Flows of Liquid."
Sub 25 Apr 47, Moscow Hydraulic Engineering and Soil Improvement Institute
V. R. Vil'yams

Dissertations presented for degrees in science and engineering in Moscow
in 1947

SO: Sum No. 457, 18 Apr 55

GAVRILENKO, V. A.

Geometricheskaya teoriya evol'ventnykh subchatykh peredach. Moskva, Mashgiz, 1949. 403 p. illus.

Bibliography: p. 399-[400].

Geometric theory of involute geared transmissions.

DLC: TJ186.G3

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

KOLCHIN, N.I.; LITVIN, F.L. [authors]; GAVRILENKO, V.A.; DAVYDOV, Ya.S. [reviewers].

"Calculations for the production and control of gearing parts." N.I.Kolchin, F.L.Litvin. Reviewed by V.A.Gavrilenko, I.A.S.Davydov. Sov.kniga no.8:45-49 Ag '53. (MLPA 6:8)
(Gearing--Tables, calculations, etc.) (Kolchin, N.I.) (Litvin, F.L.)

GAVRILENKO, Vladimir Aleksandrovich; CHASOVNIKOV, L.D., kandidat tekhnicheskikh nauk, retsenzent; DAVIDOV, Ya.S., kandidat tekhnicheskikh nauk, redaktor; POPOVA, S.M., tekhnicheskii redaktor

[Cylindrical involute gear transmission] TSilindricheskaya evol'ventnaya zubchataya peredacha. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'stva, 1956. 295 p.
(Gearing) (MLRA 9:7)

GAVRILENKO, V. A., (Prof.)

Prof. V. A. Gavrilenko, "Perspectives and Developments of Kinematics (Gears and Periodic Mechanisms) during the Past 25 Years."

paper presented at the 2nd All-Union Conf. on Fundamental Problems in the Theory of Machines and Mechanisms, Moscow, USSR, 24-28 March 1958.

GAVRILENKO, V.A., doktor tekhn. nauk, prof.

"Theory and design of gear wheels" by M. Sejvl. Reviewed by
V.A.Gavrilenko. Vest. mash. 38 no. 8:86 Ag '58. (MIRA 11:8)
(Gearing)
(Sejvl, M.)

GENKIN, Mikhail Dmitriyevich; KUZ'MIN, Nikolay Fedotovitch; MISHARIN, Yuriy Aleksandrovich; KHRUSHCHOV, M.M., prof., doktor tekhn.nauk, retsenzent; GAVRILENKO, V.A., prof., doktor tekhn.nauk, retsenzent; SHEDROV, V.S., prof., doktor tekhn.nauk, retsenzent; PINEGIN, S.V., prof., doktor tekhn.nauk, otv.red.; KLEBANOV, M.Ya., red.izd-va; KASHINA, P.S., tekhn.red.

[Seizing of gear wheels] Voprosy zaedaniia zubchatykh koles. Moskva, Izd-vo Akad.nauk SSSR, 1959. 146 p. (MIRA 12:12)
(Gearing) (Mechanical wear)

ARTOBOLVSKIY, I.I., akademik, otv.red.; ARTOBOLVSKIY, S.I., prof.,
doktor tekhn.nauk, red.; BARANOV, G.G., prof., doktor tekhn.
nauk, red.; BESSONOV, A.P., kand.tekhn.nauk, red.; GAVRILENKO,
V.A., prof., doktor tekhn.nauk, red.; KOBRINSKIY, A.Ye., doktor
tekhn.nauk, red.; LEVITSKIY, N.I., prof., doktor tekhn.nauk,
red.; RYSHETOV, L.N., prof., doktor tekhn.nauk, red.; BEZMENOVA,
L.V., kand.tekhn.nauk, red.; MOISEL', B.I., tekhn.red.

[Dynamics of machinery] Dinamika mashin; sbornik statei. Moskva,
Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 238 p.

(MIRA 13:8)

1. Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin
i mekhanizmov. 2n, Moscow, 1958.

(Machinery)

(Mechanical movements)

ARTOBOLLEVSKIY, I.I., akademik, otv.red.; BYSTRITSKAYA, V.V., inzh., red.;
ARTOBOLLEVSKIY, S.I., prof., doktor tekhn.nauk, red.; BARANOV,
G.G., prof., doktor tekhn.nauk, red.; BESSONOV, A.P., kand.tekhn.
nauk, red.; GAVRILENKO, V.A., prof., doktor tekhn.nauk, red.;
KOBINSKIY, A.Ye., doktor tekhn.nauk, red.; LEVITSKIY, N.I., prof.,
doktor tekhn.nauk, red.; RESHETOV, L.N., prof., doktor tekhn.nauk,
red.; MODEL', B.I., tekhn.red.

[Theory of transmissions in machinery] Teoriya peredach v mashinakh;
sbornik statei. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.
lit-ry, 1960. 172 p. (MIRA 13:12)

1. Vsesoyuznoye soveshchaniye po osnovnym problemam teorii mashin
i mekhanizmov. 2d.
(Machinery) (Power transmission)

S/145/60/000/009/001/017
D221/D304

AUTHOR: Gavriilenko, V.A., Doctor of Technical Sciences,
Professor

TITLE: Some common properties of inertia moments in
mechanical systems

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashino-
stroyeniye, no. 9, 1960, 3 - 23

TEXT: The proposed solution concerns the disposition of main axes of inertia in relation to all poles. A deduction is made on centrifugal moments of inertia in respect to all pairs of axes which are on a common perpendicular. The equality of the above results in the conclusions of three theorems. The centrifugal moment of inertia in relation to the coplanar pair of axes with a common pole is then considered. Equations are deduced and the notions of zero pair of axes and double axes are introduced. Special cases of the latter are then analyzed. This leads to designation of the plane of equal moment axes (zero plane), and the spherical as well as circle

Card 1/2

Some common properties of ...

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D221/D304

points. The case of a treble point is also considered. This is followed by elaboration on the main axes of inertia for a given pole on a specified plane and their connection with the corresponding zero pair of axes. The distribution of axes of inertia ellipses and their deviation in the given pole is analyzed. The centrifugal moment of inertia in respect of pair of axes with a common pole and one common axis is discussed and this leads to three theorems. Finally, the selection and distribution of main axes of inertia is considered. The author concludes that these can be formed by axes of the family of zero pair axes with base poles H only. The above is applied to the case when the central ellipsoid of inertia is converted into an ellipsoid of revolution, or a sphere. There are 14 figures and 1 table.

ASSOCIATION: Leningradskiy tekstil'nyy institut (Leningrad Textile Institute)

SUBMITTED: April 11, 1960

Card 2/2

S/122/61/000/001/003/015
A161/A130

AUTHOR: Gavrilenko, V. A., Professor, Doctor of Technical Sciences

TITLE: The pitch surfaces of gears

PERIODICAL: Vestnik mashinostroyeniya, no. 1, 1961, 28 - 32

TEXT: The article presents a theoretical graphical analysis of the pitch surfaces of gear couples, their difference from the axoid surfaces, and consideration of their role in the calculation of gears. The general conceptions "pitch surface" and "axoid surface" are defined and analyzed beginning with hyperboloidal gear couples, for the pitch circle conception has its practical sense for this kind only and loses it on bevel and cylindrical gears where the pitch and axoid surfaces coincide. A ratio formula for the pitch surfaces of two hyperboloids of rotation contacting on their common generatrix coinciding with the momentary screwline motion is derived presenting the contact point path and speeds. It is recommended to develop design not on a complex geometrical basis but to use simple surfaces, e.g., cylinders, or cones, and contacting them in a single point only. The example of common hyperboloidal involute transmission (worm gear trans-

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S/122/61/000/001/003/015
A161/A130

The pitch surfaces of gears

mission) is used for explanation. Three cases of the construction of pitch surfaces of gears in point contact are presented - 1) The screw beam crosses both gear axes in points k_1 and k_2 (Figure 9) at angles not to equal 90° , 2) the beam (k_1k_2) crosses one of the gear axes at 90° (Figure 10), 3) the center distance (O_1O_2) is considered the beam (Figure 6). The case of globoidal (or toroidal) worm transmission is also discussed. Conclusions: Cylindrical and bevel gears may be designed considering the pitch surfaces or the axoid surfaces alone, without committing any mistake, but in case of the hyperboloidal transmissions the conception of pitch surfaces gives the designer a means to influence considerably the gear tooth strength. There are 11 figures.

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S/122/61/000/001/003/015
A161/A130

The pitch surfaces of gears

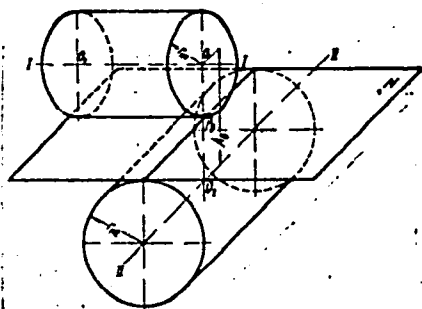


Figure 6:

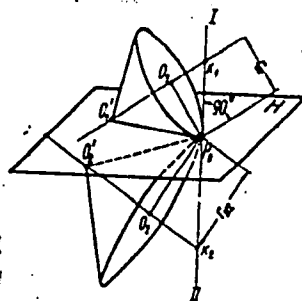
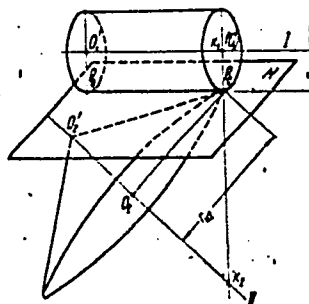


Figure 9

Figure 10



Card 3/3

GAVRILENKO, V.A., doktor tekhn.nauk, prof.

Conditions for the nontransmission of an impact to the bearings of
a solid body rotating about a stationary axis. Izv.vys.ucheb.zav.;
mashinostr. no.11:76-78 '61. (MIRA 14:12)

1. Leningradskiy tekstil'nyy institut.
(Mechanical movements)

GAVRILENKO, V.A., doktor tekhn. nauk, prof., otv. red,

[Gear wheels, engagements and transmissions with a constant gear ratio; terminology] Zubchatye koleśa, zatsepleniia i peredachi s postoiannymperedatochnym otnosheniem; terminologiiia. Moskva, Izd-vo Akad. nauk SSSR, 1962. 67 p. (Sborniki rekomenduemykh terminov, no.57) (MIRA 15:3)

1. Akademiya nauk SSSR. Komitet tekhnicheskoy terminologii.
(Gearing—Terminology)

VULGAKOV, E.B.; GAVRILENKO, V.A., prof., doktor tekhn. nauk, retsenzent;
GROMAN, M.B., inzh., red.; LESNICHENKO, I.I., red. izd-va;
MAKAROVA, L.A., tekhn. red.

[Gears with modified initial rake contour] Zubchatye peredachi
modifitsirovannogo iskhodnogo reschnogo kontura. Moskva, Mash-
giz, 1962. 98 p. (MIRA 16:2)

(Gearing)

ARTOBOLVSKIY, I.I., akademik, red.; LEVITSKIY, N.I., doktor tekhn. nauk, prof., red.; KOZHEVNIKOV, S.N., red.; KOBRINSKIY, A.Ye., doktor tekhn. nauk, red.; PETROKAS, L.V., doktor tekhn. nauk, red.; GAVRILENKO, V.A., doktor tekhn. nauk, red.; BESSONOV, A.P., kand. tekhn. nauk, red.; GRODZENSKAYA, L.S. kand. tekhn. nauk, red.; MERENSKAYA, I.Ya., red.izd-va; UVAROVA, A.F., tekhn. red.

[Analysis and synthesis of mechanisms] Analiz i sintez mekhanizmov; sbornik statei. Moskva, Mashgiz, 1963. 234 p.
(MIRA 16:9)

1. Soveshchaniye po osnovnym problemam teorii mashin i mekhanizmov. 3d, Moscow, 1961. 2. Chlen-korrespondent AN Ukr.SSR (for Kozhevnikov).

(Mechanisms)

ARTOBOLEVSKIY, I.I., akademik, doktor tekhn. nauk, red.; LEVITSKIY, N.I., doktor tekhn. nauk, prof., red.; KOZHEVNIKOV, S.N., red.; KOBRINSKIY, A.Ye., doktor tekhn. nauk, red.; PETROKAS, L.V., doktor tekhn. nauk, prof., red.; GAVRILENKO, V.A., doktor tekhn. nauk, prof., red.; BESSONOV, A.I., kand. tekhn. nauk, red.; SHEKHVITS, E.I., kand. tekhn. nauk, red.

[Theory of automatic machines and of hydraulic and pneumatic drives] Teoriia mashin-avtomatov i gidro-pnevmooprivoda; sbornik statei. Moskva, Mashgiz, 1963. 327 p. (Its: Trudy)

(MIRA 17:10)

1. Soveshchaniye po osnovnym problemam teorii mashin i mekhanizmov. 3d, Moscow, 1961. 2. Chlen-korrespondent AN UkrSSR (for Kozhevnikov).

RUBIN, B.A.; GAVRILENKO, V.F.; GUZHOVA, H.V.

Studying the synthesis of Mg-porphyrins and Fe-porphyrins in isolated roots. Dokl. AN SSSR 140 no.5:1201-1204 0 '61.

(MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom A.I.Oparinym.

(Porphyrin and porphyrin compounds)

(Roots(Botany))

GAVRILENKO, Veronika Feodosiyevna, kand. biol. nauk; RUBIN, B.A.,
zasl. deyatel' nauki RSFSR, prof., red.; STAROSTENKOVA, M.M.,
red.; RAKITIN, I.T., tekhn. red.

[The work of roots] Rabota kornia. Pod red. B.A. Rubina. Mo-
skva, Izd-vo "Znanie," 1963. 31 p. (Novoe v zhizni, nauke,
tekhnike. VIII Seriya: Biologiya i meditsina, no.3)
(MIRA 16:2)

(Roots (Botany))

GAVRILENKO, V.F.; RUBIN, B.A.

Effect of the sap on the greening of leaves. Dokl. AN SSSR 148
no. 4:958-961 F '63. (MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
Predstavleno akademikom A.N. Belozerskim.
(Sap) (Color of leaves)

RUBIN, B.A.; CHERUAVINA, I.A.; GAVRILENKO, V.F.

Studies on the relationship between the formation of
chlorophylls and Fe-porphyrins in higher plants.
Biologia plantarum 5 no.3:228-237 '63.

1. Institute of Plant Physiology, Lomonosov State University,
Moscow, U.S.S.R.

RUBIN, B.A.; GAVRILENKO, V.F.; GIZHVA, N.V.

Biosynthesis of ferroporphyrins in roots as related to the
metabolism of plants. Dokl. AN SSSR 156 no. 4:961-963 Je '64.
(MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
Predstavleno akademikom A.N.Belozerskim.

GAVRILENKO, V.F.; RUBIN, B.A.

Mg-porphyrin synthesis in isolated roots. Dokl. AN SSSR 162 no.6:
1427-1429 Je '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet. Submitted August 25, 1964.

SAVRIENKO, V.F.; GUZHOVA, N.V.; RUBIN, B.A.

Some characteristics of the exchange of ferrocenyl compounds
in the roots and aerial organs of plants. Dokl. Ak. Nauk 164
no.6:1428-1431 O 1965. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet. Submitted November 25,
1964.

GAVRILENKO, V.F.; SNEGIREV, A.A.

Transistor zero-element. Priboroostroenie no.12:25 D'63.
(MIRA 17:5)

GAVRILENKO, V.I.; IL'CHENKO, L.N.

Technological processes connected with the miniaturization
and microminiaturization of electronic units (survey of
foreign engineering). Priborostroenie no.2:28-31 F '64.
(MIRA 17:3)

DANILOV, B.P., kand.tekhn.nauk; BORODITSKAYA, E.M., inzh.; GAVRILENKO, V.N.,
inzh.

Wall panels for coal concentration plants. Prom.stroil. 42
no.11:15-16 N '64. (MIRA 18:8)

1. Denetskiy Promstroynil'proyekt.

GAVRILENKO, V.S.

Flameless furnaces of a new type for nonoxidating heating
of metals for pressing. Trakt. i sel'khoz mash. 33 no. 3:41-
43 Mr '63. (MIRA 16:11)

1. Gosudarstvennyy soyuznyy proyektnyy institut No. 8 Moskovskogo
gorodskogo soveta narodnogo khozyaystva.

21

Flameless gas heating in industrial plants. V. S. A.
Gavrilenko. *From: Energ. 5, No. 5, 9 (1968).* N. Thom

ASM-ILA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED INDEXED
SERIALIZED FILED

SEP 1968

U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

GAVRILENKO, V. S.

6/27

GAVRILENKO, V. S. Dombinirovannyi metod kovki-shtampovki na pressakh v melkoseriynom proizvodstve (Iz opyta roboty laureata stalinskoy premii a. V. potekhlina) M., Ts BTI, 1954 38 s s chert. 20 sm (M-vo stankostroit. i instrum promsti SSSR Obnen opytom v stankostroit i instrum prom-sti, No. 17) 1500 BKZ BESPL. AVT. UKAZAN V KOMPSE IENSTA (55-146zh) 621.73.034:621.97

SO: KENZHAMIA LETOPIS' NO. 6, 1955

GAVRILENKO, V.S.

Treatment of elderly tuberculosis patients. Probl. tub. 34 no.1:9-14
Ja-F '56 (MLRA 9:5)

1. Iz Moskovskogo oblastnogo nauchno-issledovatel'skogo
tuberkuleznogo instituta (nauchnyy rukovoditel'-prof. D.D. Aseyev)
i kafedry tuberkuleza (zav. prof. P.V.Shebanov) i MOLMI.

(TUBERCULOSIS, in aged
ther.)

(AGED, dis.
tuberc., ther.)

GAVRILENKO, V.S.

SHILBANOV, P.V., prof.; GAVRILENKO, V.S.; SMUROVA, T.F.; ADAMOVICH, V.N.

System for an antibacterial treatment of pulmonary tuberculosis.

Sov.med. 21 no.12:63-69 D '57.

(MIRA 11:3)

1. Iz kafedry tuberkuleza I Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M.Sechenova.

(TUBERCULOSIS, PULMONARY, ther.

PAS, streptomycin & N-(4-hydroxy-3-methoxy) benzal
isonicotinic acid hydrazone (Bus)

CAVRILENKO, V. S.: Master Med Sci (diss) -- "Tuberculosis of the lungs among middle-aged people". Moscow, 1959. 17 pp (First Moscow Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, No 18, 1959, 128)

GAVRILENKO, V.S., kand.med.nauk

Incidence of pulmonary tuberculosis in aged subjects and results of treatment (according to dispensary data). Probl.tub. 39
no.2:15421 '61. (MIRA 14:3)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (dir. - kand.med.nauk B.F. Chernyshev, sam. dir. po nauchnoy chasti - prof. D.D. Asayev) i 1-go protivotuberkuleznogo dispansera Moskvyy (glavnyy vrach - zasluzhennyy vrach RSFSR N.D. Peresleni).
(TUBERCULOSIS)

GAVRILENKO, V.S., kand. med. nauk; KOSOVA, N.Ya., kand. med. nauk;
LIFSHTS, F.B., kand. med. nauk

Experience with the use of ethoxyd in the compound treatment
of pulmonary tuberculosis. Probl. tub. 41 no.5:45-49 '63.
(MIRA 17:1)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta
tuberkuleza (dir. - kand. med. nauk Mochalova, T.P.,
zamestitel' direktora po nauchnoy chasti - prof. D.D. Aseyev)
Ministerstva zdravookhraneniya RSFSR.

GAVRILENKO, V.S., kand.med.nauk

Determination of the clinical recovery from tuberculosis of the lungs
in adults. Probl. tub. no.2:32-38 '64. (MIRA 17:12)

1. Moskovskiy nauchno-issledovatel'skiy institut tuberkuleza (dir.
T.P.Mochalova, zamestitel' direktora po nauchnoy chasti - prof. D.D.
Aseyev) Ministerstva zdravookhraneniya RSFSR.

ZAVRILENKO, V. V.

AUTHORS: Zakharin, L. I., Zavrilenko, V. V., Ozhlobystin, O. Yu. 62-1-18/29

TITLE: The Action of Triethyl Aluminum and Diisobutyl Aluminum Hydride on Metal Chlorides of Group VI in the Presence of Carbon Monoxide
Synthesis of the Chromium, Molybdenum, and Tungsten Carbonyls
(Deystviye trietilaluminia i diizobutilaluminiggidrida na khloridy metallov VI gruppy v prisutstvii okisi ugleroda. Sintez karbonilov khroma, molibdena i vol'frama)

PERIODICAL: Izvestiya AN SSSR. Otdeleniye Khimicheskikh Nauk, 1958
Nr 1, pp 100 - 102 (USSR)

ABSTRACT: The action of triethylaluminum and diisobutylaluminumhydride on the above mentioned chlorides was for the first time investigated by Jab and Cassal (reference 1). Both found, that carbonyles of chromium, molybdenum, and tungsten are formed in the reaction. Later this method was investigated by means of magnesium-organic compounds, i.e. in different variants. The authors show in this paper that for the obtaining of $\text{Cr}(\text{CO})_6$, $\text{Mo}(\text{CO})_6$ and $\text{Cr}(\text{CO})_6$ triethylaluminum and diisobutylaluminumchloride can be used with success, i.e. in carrying out the reaction of the chlorides of the metals of the 6th group with triethylaluminum in etheric solution. In the reaction under the same conditions with diisobutylaluminumhydride $\text{Cr}(\text{CO})_6$ and $\text{Mo}(\text{CO})_6$ were obtained (with a

Card 1/2

The Action of Triethyl Aluminum and Diisobutyl Aluminum Hydride on 62-1-18/29
Metal Chlorides of Group VI in the Presence of Carbon Monoxide. Synthesis
of the Chromium, - Molybdenum-, and Tungsten Carbonyls

yield of 73 - 75%) The synthesis of the triethylaluminum and triisobutylaluminum (of which diisobutylaluminumhydride was produced) was carried out by the authors corresponding to the reaction of Ziegler, Cellert, Zosel (reference 5) from aluminum, hydrogen, and the corresponding olefin. There are 5 references.

ASSOCIATION: Institute of Elemental-Organic Compounds, AS USSR (Institut elementoorganicheskikh soedineniy Akademii nauk SSSR).

SUBMITTED: July 12, 1957

AVAILABLE: Library of Congress

1. Triethylaluminum-Synthesis
2. Triisobutylaluminum-Synthesis
3. Chromium carbonyl-Synthesis
4. Molybdenum carbonyl-Synthesis
5. Tungsten carbonyl-Synthesis
6. Diisobutylaluminumhydride-Production
7. Metal chlorides-Chemical reactions
8. Triethylaluminum-Chemical reactions
9. Diisobutylaluminumhydride-Chemical reactions
10. Carbon monoxide-Applications

Card 2/2

AUTHORS: Zakharkin, L. I., Gavrilenko, V. V. 20-118-4-24/61

TITLE: The Effect of Carbon Dioxide on Aluminum Trialkyls (Deystviye
dвуokisi ugleroda na alyuminiytrialkily). The Synthesis of
Carboxylic Acids (Sintez karbonovykh kislot)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 4, pp. 713-715
(USSR)

ABSTRACT: Contradicting data concerning this action can be found in
publications. The p-toluilic acid is formed by the reaction of
tri-p-tolyl-aluminum with CO₂ (ref. 1). No carboxylic acids
are supposed to be formed by the reaction mentioned in the
title (ref. 2). Finally aliphatic organic aluminum compounds
of the type R₂AlJ and RAlJ₂ are not to react at all with CO₂
(ref. 3). The authors have, however, proved that the reaction
mentioned in the title takes place under pressure (up to 320
atmospheres absolute pressure) and at an increased temperature
(220-250°) under formation of mainly carboxylic acids. Approxi-
mat_ely 2 equivalents of the organic aluminum compound enter
into the reaction under the conditions investigated. This shows
at least that the compounds of the type R₂AlOCOCH₃ form carb-
oxylic acids with CO₂. A certain quantity of neutral substances

Card 1/3

The Effect of Carbon Dioxide on Aluminum Trialkyls.
The Synthesis of Carboxylic Acids

20-118-4-24/61

was always formed here which were not investigated. Butyric acid with a yield of approximately 60% of the theoretically possible value was produced from tripropyl aluminum and CO₂. Propionic-, isovaleric acid resp. were obtained in a similar way from triethyl- and tri-isobutyl-aluminum. This method of synthesis may be interesting for the synthesis of normal sebacic acids with even as well as with odd C-number. A mixture of normal sebacic acids with an odd C-number was formed with a yield of approximately 50% in the CO₂-action on a mixture of tri-ethyl-aluminum and ethylene (see ref. 2). Therefrom propionic-, valeric-, enanthic-, pelargonic-, and hendecane acid were isolated. A mixture of normal sebacic acids was obtained in an analogous experiment which was carried out with tri-propyl-aluminum. Butyric-, capronic-, and caprylic acid could be isolated from this mixture. An experimental part with the usual data follows. There are 4 non-Slavic references.

ASSOCIATION: Institute for Elemental-organic Compounds AS USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

Card 2/3

The Effect of Carbon Dioxide on Aluminum Trialkyls.
The Synthesis of Carboxylic Acids

20-118-4-24/61

PRESENTED: September 19, 1957, by A. N. Nesmeyanov, Academician

SUBMITTED: September 17, 1957

AVAILABLE: Library of Congress

Card 3/3

5(3)

AUTHORS:

Zakharkin, L. I., Gavrilenko, V. V.

SOV/62-59-1-29/38

TITLE:

Interaction of Halogens With Aluminum Trialkyls (Vzaimodeystviye galoidov s alyuminiytrialkilami)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 166 - 168 (USSR)

ABSTRACT:

In the present communication the authors report on the investigation of the effect of chlorine, bromine, iodide on a number of aluminum trialkyls. Aluminum trialkyls react very strongly with halogens without solvent even at low temperatures (down to -78°). The effect of chlorine was investigated with triisobutyl aluminum, tri-n-butyl aluminum, tripropyl aluminum and tri-n-hexyl aluminum. Thus isobutyl chloride, 1-chloro butane, 1-chloro propane and 1-chloro hexane were obtained accordingly. The chlorination was carried out at -35 and -20° . The yield of alkyl chlorides amounted to 60-70%. Besides monochlorine derivatives also higher chlorine derivatives were obtained, especially at an excess of chlorine. In addition to that, the aluminum trialkyl mixture synthesized from triethyl aluminum and

Card 1/ 2

Interaction of Halogens With Aluminum Trialkyls

SOV/62-59-1-29/58

ethylene was chlorinated. 1-chloro butane, 1-chloro hexane and 1-chloro octane were separated therein. The reaction with bromine was investigated with triisobutyl aluminum, tri-n-butyl aluminum, tripropyl aluminum and tri-n-hexyl aluminum. At -20 and -25° only 2/3 of the theoretically required bromine quantity reacted. The yield of alkyl bromides amounted to 60-70%. By the action of bromine on the reaction product of trimethyl aluminum and isobutylene neopentyl bromide was precipitated in addition to methyl bromide. The effect of iodide was investigated with triethyl- and triisobutyl aluminum. The yield of alkyl iodides amounted to ~ 60%. Under given conditions isomerization of halide alkyls was not observed in one of the cases investigated. There are 5 references, 2 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: June 6, 1958

Card 2/2

5 (3)

AUTHORS: Zakharkin, L. I., Gavrilenko, V. V. SOV/62-59-8-39/42

TITLE: Anomalous Reaction Course in the Displacement of Isobutylene by Means of Styrene From Triisobutylaluminum

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr. 8, p 1507 (USSR)

ABSTRACT: In the displacement reaction of triisobutylaluminum and styrene an affiliation of aluminum to both the first and second carbon atom could be observed contrary to Ziegler's statements (Refs 1, 2). The two isomers were obtained in a ratio $\sim 7:3$. The following equation is given for the reaction: $C_6H_5CH=CH_2 + i-C_4H_9al \rightarrow$
 $\rightarrow C_6H_5\underset{\text{CH}_3}{CH}-al + C_6H_5CH_2CH_2al + i-C_4H_8$, $al = 1/3 Al$. After the

oxidation of the obtained mixture with chromic anhydride in acetic acid, acetophenone and phenyl acetic acid were precipitated under the influence of carbon dioxide-ethylbenzoic and cinnamic acid. Similar results were obtained in the investigation of the affiliation of diisobutylaluminum to styrene. There are 2 references.

Card 1/2

Anomalous Reaction Course in the Displacement of
Isobutylene by Means of Styrene From Triisobutylaluminum

SOV/62-59-8-39/42

ASSOCIATION: Institut elementorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds, Academy of Sciences,
USSR)

SUBMITTED: May 22, 1959

Card 2/2

5.3700

11 53
22 09
12 36

86416

S/062/60/000/008/032/033/XX
B013/B055

AUTHORS: Zakharkin, L. I., Gavrilenko, V. V., Parnes, Z. N., and Kursanov, D. N.

TITLE: On the Mode of Addition of Diisobutyl Aluminum Hydride to Dimethyl Fulvene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1518-1520

TEXT: This is a brief communication on the reaction between dimethyl fulvene and diisobutyl aluminum hydride. In this reaction, HAlR_2 adds to fulvene. Hydrolysis of the organo-aluminum compound leads to isopropyl cyclopentadiene, isobutane and aluminum hydroxide. From the product formed, no conclusions concerning the course of HAlR_2 addition can be drawn. The tracer method was applied in the present study. The organo-aluminum compound was hydrolyzed with deuterium oxide and the resulting deuterio isopropyl cyclopentadiene was then subjected to a hydrogen exchange with $\text{C}_2\text{H}_5\text{OH}$ in the presence of $\text{C}_2\text{H}_5\text{ONa}$. The reaction conditions were the

Card 1/2

82691

S/062/60/000/008/005/012
B004/B054

5.3700

AUTHORS: Zakharkin, L. I., and Gavrilenko, V. V.
TITLE: The Effect of Sulfur, Selenium, and Sulfur Chlorides on Aluminum Trialkyls
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp 1391-1398

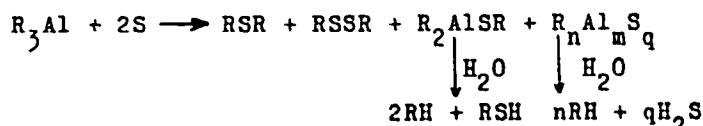
TEXT: The authors studied the reaction of triethyl-, tripropyl-, and triisobutyl aluminum with sulfur in the absence of solvents. At a ratio 1:1 of the reagents, the reaction already proceeded at 40 - 60°C according to ✓

the equation $R_3Al + S \xrightarrow{H_2O} R_2AlSR \rightarrow RSH$. The compound R_2AlSR can be distilled off in the vacuum in an undecomposed state, and under the action of water yields the mercaptan RSH. At a ratio of $S : R_3Al = 2 : 1$, the reaction proceeds in a more complicated manner. Disulfides, sulfides, and polysulfides are formed, but not the compounds $RAl(SR)_2$. For this reaction, the equation

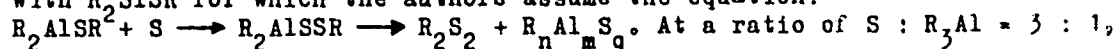
Card 1/3

The Effect of Sulfur, Selenium, and Sulfur Chlorides
on Aluminum Trialkyls

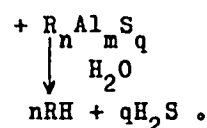
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B004/B054



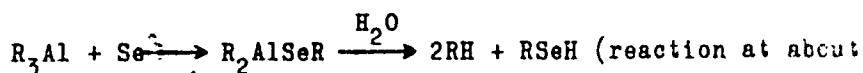
is written down. The disulfide is also formed by the reaction of sulfur with R_2AlSR for which the authors assume the equation:



At a ratio of $S : R_3Al = 3 : 1$, the following reaction takes place: $R_3Al + 3S \longrightarrow R_2S + R_2S_2 + R_2S_3 +$



For the reaction of selenium with triethyl- and triisobutyl aluminum, the following equations are written down:



(reaction at about $70 - 80^\circ C$), and $R_3Al + 2Se \xrightarrow[\Delta]{H_2O} RSeH + R_2Se_2 + RH$ (reaction only at $140 - 150^\circ C$). In $R_3Al + 3Se$, diselenide is formed as a principal product besides selenide and selenole. Sulfur chlorides react violently with

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82691

The Effect of Sulfur, Selenium, and Sulfur
Chlorides on Aluminum Trialkyls

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B004/B054

aluminum trialkyls also in heptane solution with much sulfur being set free. With triisobutylene aluminum in etheric solution the reaction proceeds smoothly at -30 to $+20^{\circ}\text{C}$. At a ratio of $\text{SCl}_2 : (\text{i-C}_4\text{H}_9)_3\text{Al} = 1 : 1.5$, approximately equal amounts of diisobutyl sulfide and diisobutyl disulfide could be isolated. At a stoichiometric ratio, the reaction proceeded according to the equation $\text{R}_3\text{Al} + \text{SCl}_2 \rightarrow \text{R}_2\text{S} + \text{R}_2\text{S}_2 + \text{R}_2\text{S}_3$. For the reaction with S_2Cl_2 , the equation $\text{R}_3\text{Al} + \text{S}_2\text{Cl}_2 \rightarrow \text{R}_2\text{S} + \text{R}_2\text{S}_2 + \text{R}_2\text{S}_3 + \text{R}_2\text{S}_x$ is written down. R_2S_x was a high-boiling fraction resulting in small quantity only.

Isobutyl chloride was not formed in any reaction of triisobutyl aluminum with sulfur chlorides. In the experimental part of the paper, the authors indicate the formulas of the reactions carried out, the yields, the analytical data, and the physical data of the compounds obtained. There are 9 references: 2 Soviet, 1 British, 2 German, and 4 French.

ASSOCIATION: Institut elemento-~~te~~organicheskikh soedineniy Akademii nauk
SSSR (Institute of Elemental-organic Compounds of the
Academy of Sciences, USSR)

SUBMITTED: January 30, 1959

Card 3/3

87172

5 3700

S/062/66/000/012/016/020
B013/B054

AUTHORS: Zakharkin, L. I. and Gavrilenko, V. V.
TITLE: Use of Sodium Diisobutyl Aluminum Dihydride as a Reducing Agent
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 12, pp. 2245-2247

TEXT: By the example of $\text{NaAl}(\text{i-C}_4\text{H}_9)_2\text{-H}_2$ ($\text{NaAl}(\text{i-C}_4\text{H}_9)_2\text{H}_2$), the authors report on the possibility of using dialkyl aluminum hydride complexes with sodium hydride, NaAlR_2H_2 , as a reducing agent for various functional groups in organic compounds. Sodium diisobutyl aluminum dihydride can be easily obtained by reaction of sodium hydride with diisobutyl aluminum hydride in benzene or toluene solution at $80^\circ\text{-}100^\circ\text{C}$. Due to the solubility of $\text{NaAl}(\text{i-C}_4\text{H}_9)_2\text{H}_2$ in nonethereal media, it can be used as a reducing agent in cases where the application of ether is inconvenient or impossible. The authors reduced methyl benzoate, methyl ester of δ -chlorovaleric acid,

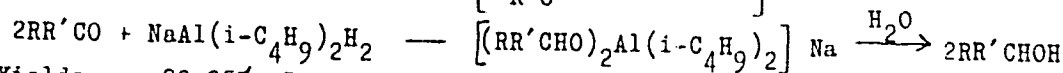
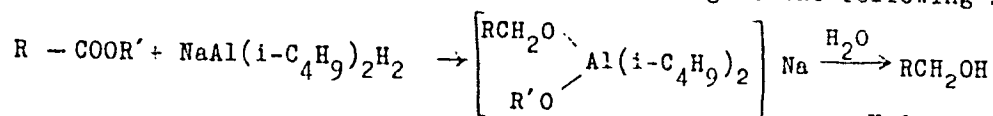
Card 1/3

87172

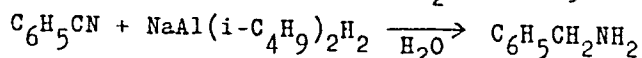
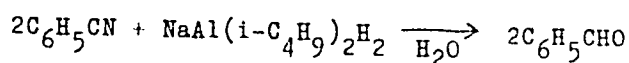
Use of Sodium Diisobutyl Aluminum Dihydride
as a Reducing Agent

3/062/60/000/012/016/020
B013/B054

benzaldehyde, cinnamic aldehyde, acetophenone, phenyl acetone, and cyclohexanone to the corresponding alcohols according to the following schemes:



Yields are 80-95%. Depending on conditions, the reduction of benzonitrile proceeds to the aldehyde or amine



By reduction of dimethyl amide of caprylic acid with dihydride in benzene solution, dimethyl octylamine was obtained in an 83.5% yield. Both the production of sodium diisobutyl aluminum dihydride and the reduction of the functional groups were conducted in an inert medium (nitrogen). There

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87172

Use of Sodium Diisobutyl Aluminum Dihydride
as a Reducing Agent

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B013/B054

are 5 non-Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk
SSSR (Institute of Elemental-organic Compounds of the
Academy of Sciences USSR)

SUBMITTED: May 14, 1960

Card 3/3

89913

15.8114

S/062/61/000/002/010/012
B115/B207

AUTHORS: Zakharkin, L. I., Kolesnikov, G. S., Davydova, S. L.,
Gavrilenko, V. V., and Kamyshova, A. A.

TITLE: Dialkyl aluminum derivatives of saturated and unsaturated
acids

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, no. 2, 1961, 364-365

TEXT: The authors aimed at obtaining dialkyl aluminum methacrylates and
acrylates and studying their properties. The compounds of the
(RCOO)_xAlR_{3-x} type have not yet been described in publications. First, ✓
the authors tried to obtain salts of dialkyl aluminum and of fatty
acids by interaction of the potassium salts of these acids with
dialkyl aluminum chlorides, but without success probably due to complex
formation of organoaluminum compounds with KCl. Subsequently, the
authors applied the interaction of trialkyl aluminum with free
saturated and unsaturated acids by the following scheme:

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89913

Dialkyl aluminum derivatives of ...

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B115/B207

$\text{RCOOH} + \text{AlR}_3 \longrightarrow \text{RCOOAlR}_2 + \text{R'H}$. The reaction proceeded in hexane or benzene under intensive stirring. The separation of saturated hydrocarbons in quantities close to calculations was observed in the reaction process. By this method, the following substances were obtained from dialkyl aluminum and saturated acids: diisobutyl aluminum acetate, diisobutyl aluminum propionate; from dialkyl aluminum and unsaturated acids: diethyl aluminum methacrylate, diethyl aluminum acrylate, and diisobutyl aluminum methacrylate. The substances obtained are transparent, colorless, easily distillable and viscous oils which fume in the air and inflame sometimes. The table shows their constants. Salts from dialkyl aluminum and unsaturated acids polymerize both thermally and in the presence of initiators such as dinitrile of azoisobutyric acid. They are viscous, transparent polymers which are nearly insoluble in organic solvents, and swell in some polar media such as amyl acetate or dimethyl formamide. Salts from dialkyl aluminum and unsaturated acids copolymerize well with methyl methacrylate and styrene in all ratios (1 : 0.5, 1 : 1, 1 : 2, 1 : 4, etc.), and are solid, transparent, vitreous polymers practically insoluble in organic solvents.

Card 2/4

89913

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B115/B207

Dialkyl aluminum derivatives of ...

Homeopolymers decompose in the air, while copolymers do not change in the air (if they are not kept there for too long). All reactions with organoaluminum compounds were conducted in pure nitrogen. There are 1 table and 8 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR)

SUBMITTED: July 4, 1960

Card 3/4
3

5 2100

30167
S/062/61/000/012/008/012
B117/B147

AUTHORS: Zakharkin, L. I., and Gavrilenko, V. V.
TITLE: Simple method of producing sodium- and potassium aluminum hydrides
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 12, 1961, 2246 - 2248

TEXT: A simple method of producing sodium- and potassium aluminum hydrides is described. It was found that sodium aluminum hydride is readily obtained in high yields from aluminum chloride and sodium chloride in the presence of catalytic amounts of aluminum trialkyl, dialkyl aluminum hydrides, or their complexes with sodium hydride. According to this method, 2-4% of aluminum trialkyl is added to a suspension of sodium hydride in benzene. A concentrated solution of aluminum chloride in diethyl ether is added to the mixture which is heated to 60 - 80°C and stirred. The temperature is maintained at 65 - 75°C at the expense of the reaction temperature. Reaction proceeds rapidly. The entire procedure takes 3-4 hr.

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Simple method of producing...

30167
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B117/B147

The reaction mixture is centrifuged or filtered. The entire catalyst is contained in the filtrate in the form of a complex with sodium hydride, and can be further utilized. Sodium aluminum hydride is extracted from the solid residue with tetrahydrofuran or another solvent. The yield is 90% of the theoretical amount. In this reaction, the sodium hydride is converted by means of the organic aluminum compound into the soluble state in the form of $\text{NaH} \cdot \text{AlR}_3$ - or $\text{NaH} \cdot \text{AlR}_2\text{H}$ complexes, which effect reduction of the aluminum chloride. The method was also used for the synthesis of potassium aluminum hydride diisobutyl aluminum hydride serving as catalyst. There are 3 references: 1 Soviet-bloc and 2 non-Soviet. The two references to English-language publications read as follows: A. E. Finholt, E. C. Jacobson, A. E. Ogard, P. Thomson, J. Amer. Chem. Soc. 77, 4163 (1955); A. E. Finholt, G. D. Barbaras, G. K. Barbaras, G. Urry, T. Wartik, H. G. Schlesinger, J. Inorgan. Nuclear Chem. 1, 317 (1955).

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk
SSSR (Institute of Elemental Organic Compounds of the Academy
of Sciences USSR)

Card 2/8 *L*

5.2410

33271

S/062/62/000/001/012/015
B101/B110

11.1240

AUTHORS:

Zakharkin, L. I., and Gavrilenko, V. V.

TITLE:

Production of sodium- and potassium boron hydride by reduction of boron halides by means of sodium- or potassium hydride in the presence of triethyl aluminum

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1962, 173 - 174

TEXT: The reaction $BCl_3 + 4MeH \xrightarrow{(C_2H_5)_3Al} MeBH_4 + 3MeCl$ (Me = Na or K) was investigated. $(C_2H_5)_3Al$ was added to a suspension of the alkali hydride in toluene, in N_2 atmosphere; the mixture was heated (using NaH to 80 - 85°C, using KH to 80°C), and BCl_3 was bubbled through the suspension at such a rate that the temperature was 80-95°C using NaH, and 75-85°C using KH. The precipitate was filtered off, washed with ether, and extracted by means of diglym (diglim). The $MeBH_4$ yield was 83% for Me = Na, 90% for Me = K. Dropwise addition of boron trifluoride etherate instead of BCl_3 ✓

Card (1/2)

33271

Production of sodium- and potassium ...

S/062/62/000/001/012/015
B101/B110

bubbling is one variant of the method. The triethyl aluminum forms complexes: $\text{MeAl}(\text{C}_2\text{H}_5)_3$ (Me = Na or K), which reduce BCl_3 to BH_3 , whereupon MeBH_4 is formed by BH_3 with MeH. There are 4 references: 1 Soviet and 3 non-Soviet. The reference to the English-language publication reads as follows: H. I. Schlesinger, H. C. Brown, I. R. Gilbreath, I. I. Katz J. Amer. Chem. Soc., 75, 195 (1953).

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: July 12, 1961

Card 2/2

31910

S/C79/62/052/003/001/007

D204/D302

11.2223

AUTHORS: Zakharkin, L.I. and Gavrilenko, V.V.

TITLE: Complexes of trialkyl aluminium and dialkyl aluminium hydrides with alkali metal alkyls and hydrides

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 3, 1962, 689-692

TEXT: An account of the synthesis of (1) $MAIR_4$, where $M=Li, Na, K$ and $R=Me, Et, n-Pr$ and iso-Bu, in hydrocarbons or in the absence of solvent, by the reaction: $3M+4R_3Al \rightarrow 3MAIR_4+Al$, at room temperature, heating towards the end to 60-80°C. Reactivity increased in the order $Li < Na < K$. Me_3Al reacted with Li only in tetrahydrofuran (THF) or ethereal solutions. (2) $MAIHR_3$ where $M=Li, Na, K$ and $R=Me, Et, n-Pr, iso-Bu$, and $MAIH_2R_2$, where $M=Li, Na, K$ and $R=iso-Bu$, by reactions $R_3Al+MH \rightarrow MAIHR_3$ and $R_2AlH+MH \rightarrow MAIH_2R_2$ respectively, using hydrocarbons as solvents. Me_3Al reacted in THF or ether as before. The order of reactivity was as above - NaH

Card 1/2

Complexes of trialkyl ...

S/079/62/032/003/001/007
D204/D302

and LiH required heating to 60-80°C, or higher, to react. (5) $MAlH_2R_2$, where M=Na, K and R=Me, Et, n-Pr, by the reaction $R_2AlCl + 2NH \rightarrow MAlH_2H_2 + MCl$, in hydrocarbon solvents. These reactions were facilitated by additions of the corresponding R_2AlH . Experimental details are given for the 4 types of reactions and m.p.'s of the products are tabulated. The complexes dissolved easily in THF and less readily in ether or hydrocarbons. Solubility was in the order $Li > Na > K$ and fell off with decreasing size of R. Ether and THF formed unstable complexes with some of the products. A method was also developed for the preparation of Me_3Al by: $CH_3I + Al \rightarrow (CH_3)_3AlI_3$ vacuum distillation $\rightarrow (CH_3)_2AlI$ Mg/180-200°C $\rightarrow (CH_3)_3Al$. There are 1 table and 4 non-Soviet-bloc references. The references to the English language publications read as follows: E. Becker and H. Sisler, J.Am.Chem. Soc., 75, 5193, (1953); H. Podall, H. Petree and I. Zietz, J.Org. Ch. 24, 1222, (1959); A. Grosse and J. Mavity, J.Org.Ch., 5, 106, (1940).

SUBMITTED: March 31, 1961

Card 2/2

S/062/62/000/007/001/013
B179/B101

AUTHORS: Zakharkin, L. I., and Gavrilenko, V. V.

TITLE: Exchange reactions in the series of aluminum hydrides of lithium, sodium, and potassium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1962, 1146 - 1149

TEXT: Mixing of LiAlH_4 and NaH suspended in tetrahydrofuran yielded 90.7% NaAlH_4 , the crystals of which were precipitated by ether additions. The reactions of KH in diglym suspension with LiAlH_4 (90% KAlH_4) and KH in tetrahydrofuran with NaAlH_4 (84.5% KAlH_4) were quite similar. The production of RbAlH_4 and CsAlH_4 is also possible by exchange reaction. 91-93.5% LiAlH_4 was obtained by the reaction of $\text{MeAlH}_4 + \text{LiX}$ ($\text{Me} = \text{Na}$ or K ; $\text{X} = \text{Cl}$ or Br) in ether suspension (Na) or tetrahydrofuran suspension (K) after 3-4 hr mixing in a ball mill. Thus, the preparation of LiAlH_4 from less ✓
Card 1/2

Exchange reactions in ...

S/062/62/000/007/001/013
B179/B101

expensive NaAlH_4 is possible. The reaction of KAlH_4 with NaBr was incomplete with formation of KAlH_4 and NaAlH_4 (2:1). The reaction $\text{MeAlR}_n\text{H}_{(4-n)} + \text{Me}'\text{H} \rightarrow \text{Me}'\text{AlR}_n\text{H}_{(4-n)} + \text{MeH}$ ($\text{Me}, \text{Me}' = \text{Li}, \text{Na}, \text{K}$, with Me' being more electropositive; $\text{R} = \text{C}_2\text{H}_5, n\text{-C}_3\text{H}_7, i\text{-C}_4\text{H}_9$) in benzene was almost quantitative (80 - 90% yield). The complexes $\text{MeAlR}_n\text{H}_{(4-n)}$ ($\text{Me} = \text{K}, \text{Na}$) yielded the corresponding lithium compounds by reaction with LiCl or LiBr . There is 1 table.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: January 22, 1962

Card 2/2

ZAKHARKIN, L.I.; GAVRILENKO, V.V.; KHORLINA, I.M.; ZHIGAREVA, G.G.

Reduction of silicon and germanium chlorides and alkoxides by means of sodium and potassium aluminum hydrides. Izv. AN SSSR. Otd. khim. nauk no.10:1872-1874 0 '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Silicon chloride) (Germanium chloride)
(Alkali metal aluminum hydrides)

ZAKHARKIN, L.I.; GAVRILENKO, V.V.

Direct synthesis of sodium and potassium aluminum hydrates
from elements. Dokl.AN SSSR 145 no.4:793-796 Ag '62.

(MIRA 15:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
Predstavleno akademikom A.N.Nesmeyanovym.
(Alkali metal aluminum hydrides)

I. 12715-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS ASD/ESD-3 Ps-4/Pc-4/Pr-4 RM/WW
ACCESSION NR: AP3002303 S/0062/63/000/006/1146/1147

AUTHOR: Zakharkin, L. I.; Gavrilenko, V. V. 73

TITLE: Preparation of complex aluminum acetylides, MAI (C triple bond CR) sub 4,
where M = Li, Na, or K, and their reactions with carbonyl compounds

SOURCE: AN SSSR. Izv. Otdeleniye khimicheskikh nauk, no. 6, 1963, 1146-1147

TOPIC TAGS: complex aluminum acetylides, carbonyl compounds, monosubstituted
acetylenes, aluminum, lithium aluminum hydrides, acetylenic alcohols, substituted
propionic acids

ABSTRACT: The reaction of monosubstituted acetylenes with lithium aluminum hydride
to form lithium aluminum acetylides described earlier has been found to be general
for alkali metal aluminum hydrides. The complex aluminum acetylides react with
carbonyl compounds to give acetylenic alcohols in yields from 40 to 80%. At ele-
vated temperatures they also react with carbon dioxide to give substituted
propionic acids in good yields.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Organoelemental Compounds, Academy of Sciences SSSR)

SUBMITTED: 16 Apr 63

DATE ACQ: 16 Jul 63

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 002

Card 1/1

ZAKHARKIN, L.I.; GAVRILENKO, V.V.; MASLIN, D.N.

Reduction of carboxylic acid esters to aldehydes with sodium
aluminum hydride. Izv.AN SSSR.Ser.khim. no.8:1526 Ag '63.
(MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Esters) (Aldehydes) (Sodium aluminum hydride)

ZAKHARKIN, L.I.; GAVRILENKO, V.V.

Metallization of benzene and thiophene by sodium tetraethylaluminum.
Izv. AN SSSR Ser.khim. no.10:1882 O '63.

Metallization of furan and thiophene by sodium and potassium aluminum
hydride. 1882 (MIRA 17:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ZAKHARKIN, L.I.; MASLIN, D.N.; GAVRILENKO, V.V.

Reduction of organic compounds by sodium aluminum hydride in hydro-
carbon media. Izv. AN SSSR. Ser.khim. no.3:561-564 Mr '64.

(MIRA 17:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

ZAKHARKIN, L.I.; GAVRILENKO, V.V.; MASLIN, I.N.

Obtaining aldehydes in the reduction of carboxylic acid
esters with aluminum hydride. Izv. AN SSSR Ser. khim. no. 5:
926-928 My '64. (MIRA 17:6)

ACCESSION NR: AP4039262

S/0078/64/009/006/1350/1357

AUTHOR: Zakharkin, L. I.; Maslin, D. N.; Gavrilenko, V. V.

TITLE: Reaction of boron trifluoride with sodium aluminum hydride.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 6, 1964, 1350-1357

TOPIC TAGS: boron trifluoride, sodium aluminum hydride, dibrane, diborane synthesis

ABSTRACT: The purpose of this work was to investigate the interaction of boron trifluoride with sodium aluminum hydride as a possible method for the production of diborane. The work was conducted in dimethyl ether solutions of diethylene glycol at different temperatures and with the addition of constituents in different orders. It was established that upon the interaction of equimolar amounts of sodium aluminum hydride and boron trifluoride in diethylene glycol solutions with the normal order of addition of reagents, sodium borohydride is produced with a high yield. In this reaction there was a 90% yield of diborane. It is shown that this reaction proceeds according to two different paths depending on the temperature.

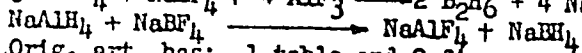
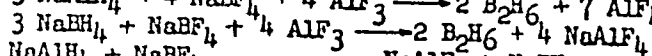
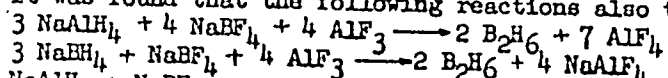
At 25 C the reaction is: $3\text{NaAlH}_4 + 7\text{BF}_3 \longrightarrow 2\text{B}_2\text{H}_6 + 3\text{NaBF}_4 + 2\text{AlF}_3$ and at 80 - 100 C the reaction is: $3\text{NaAlH}_4 + 4\text{BF}_3 \longrightarrow 2\text{B}_2\text{H}_6 + 3\text{NaAlF}_4$

Card

1/2

ACCESSION NR: AP4039262

It was found that the following reactions also take place:



Orig. art. has: 1 table and 2 figures.

ASSOCIATION: None

SUBMITTED: 15Apr63

ENCL: 00

SUB CODE: IC

NO REF SOV: 001

OTHER: 004

Card

2/2

ZAKHARKIN, L.I.; MASLIN, D.N.; GAVRILENKO, V.V.

Reduction of aromatic nitriles to aldehydes by means of
sodium aluminum hydride. Izv. AN SSSR. Ser. khim. no.8:
1511-1512 Ag '64. (MIRA 17:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

IVANOV, L.L.; GAVRILENKO, V.V.; ZAKHARKIN, L.I.

Reaction of monosubstituted acetylenes with lithium, potassium,
an² sodium aluminum hydrides and their alkyl derivatives of
MALR(4-n)H_n type. Izv. AN SSSR Ser. khim. no.11:1989-1998 N '64
(MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ZAKHARKIN, L.I.; GAVRILENKO, V.V.; IVANOV, L.L.

Preparation of acetylenecarboxylic acids by the action of carbon dioxide on complex aluminum acetylides. Izv. AN SSSR Ser. khim. no.11:2066-2068 N '64 (MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

GAVRILENKO, V.V.; IVANOV, L.L.; ZAKHARKIN, L.I.

Reactions complex aluminum acetylides with carbonyl compounds.
Zhur. ob. khim. 35 no.4:635-638 Ap '65.

(MIRA 18:5)

L 54443-65 EWT(m)/EPF(c)/EPR/EWP(j) PC-4/Pz-4/Ps-4 RPL WH/FM

ACCESSION NR: AP5012448

UR/0062/65/000/004/0644/0649
541.49+546.621/623

AUTHORS: Zakharkin, L. I.; Gavrilenko, V. V.

TITLE: Synthesis of trihydride complexes of aluminum compounds with the structure $MAIRH_3$

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 644-649

TOPIC TAGS: aluminum compound, organo metallic compound, alkali

ABSTRACT: The authors consider the aluminum complexes having the formula $MAIR_{(4-n)}H_n$, where M is an alkali metal, R is alkyl, and n is 0,1,2,4; and they focus their attention on the trihydride complexes $MAIRH_3$ ($n = 3$) because the literature has no record of such compounds being isolated. The exchange reaction between some aluminum trialkyls and sodium and lithium aluminohydrides was investigated. When such reactions take place (with alkyl radicals of methyl, ethyl, or isobutyl) in a mixture with ratio of hydride to trialkyl of 1:2, the corresponding dihydride groups and $MAIR_2H_2$ and dialkyl aluminum hydride form. With a mixture having the ratio 1:1, dialkyl aluminum hydride and the dihydride

Card 1/2

L 54443-55

ACCESSION NR: AP5012448

group MAIR_2H_2 still form, except when the alkyl is isobutyl, in which case the trihydride group $\text{NaAl}(\text{i-C}_4\text{H}_9)_3$ forms. When NaAlH_4 and $\text{NaAl}(\text{i-C}_4\text{H}_9)_2\text{H}_2$ react in tetrahydrofuran or diisobutylbutoxyaluminum, $\text{NaAl}(\text{i-C}_4\text{H}_9)_3$ forms. The trihydride complex $\text{NaAl}(\text{i-C}_4\text{H}_9)_3$ reacts with $(\text{k-C}_4\text{H}_9)_3\text{Al}$ to form $\text{NaAl}(\text{i-C}_4\text{H}_9)_2\text{H}_2$ and $(\text{i-C}_4\text{H}_9)_2\text{AlH}$. At temperatures above 500 dialkyl aluminum hydrides are split to tetrahydrofuran with the formation of dialkylbutoxyaluminum. Orig. art. has: 9 formulas.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Hetero-Organic Compounds, Academy of Sciences, SSSR)

SUBMITTED: 12Apr63

ENCL: 00

SUB CODE: 00, GC

NO REF SOV: 002

OTHER: 003

jd
Card 2/2